LETTERS TO THE EDITOR

Regarding "Value of the duplex waveform at the common femoral artery for diagnosing obstructive aortoiliac disease"

We read with interest the article the value of femoral duplex waveform for diagnosing aortoiliac arterial disease by Spronk et al.[1] Although it is known that spectral Doppler waveforms beyond a critical stenosis or occlusion may appear normal (triphasic or biphasic) at rest, they often become abnormal when reactive hyperemia is used.[2]

We have a limited experience of patients (n = 46) with disabling claudication in whom we used the exercise test (patients were asked to walk on level ground until initial claudication distance). We repeated the femoral duplex waveform analysis and compared it with the same at rest (unpublished data) The apparently normal waveform turned monophasic in 32 patients (70%). Out of the 46 patients, angiography was performed in 38, and the findings encountered were iliac artery diameter stenosis greater than 50% in 26 and iliac artery occlusion in 8. On correlating postexercise duplex findings with the angiography findings, we found the duplex results to be abnormal in 80% (22 of 26) of patients with iliac artery stenosis and in 88% (7 of 8) of patients with iliac occlusive disease.

This limited experience also has other limitations: angiography could not be performed in eight patients for various reasons, and blinding was not used, thus raising the possibility of observer bias. However, further experience with use of adjuvant methods may provide us with more data regarding the diagnostic utility of common femoral artery duplex scanning in aortoiliac artery disease.

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Reply

We thank the authors for their interest in our article and for their valuable comments. Their experience suggests that it makes clinical sense to perform Duplex scanning also after exercise, with the aim to uncover vascular stenosis not seen at rest. It is established clinical practice to elicit a pressure decrease across an iliac artery stenosis by inducing increased flow by using intra-arterial papaverine, to identify hemodynamically significant obstruction. The increased flow also results in increased Δ^ PSV at the site of the stenosis.[1] However, hyperemic duplex scanning of the aortoiliac arteries is more difficult to perform than duplex scanning at rest because most patients are breathing heavily after exercise. The lower pressure distal to the obstruction, it seems, may also affect the more distal duplex flow pattern. There might be a certain point at which the large pressure decrease would affect the flow significantly and would also affect the resistance of the vascular bed significantly. Therefore, the normal duplex waveform at the common femoral artery measured at rest may become abnormal (monophasic) after exercise. It is known that, for the same reason, patients can have a normal ankle-brachial index in rest, whereas it decreases after reactive hyperemia. Although more research is needed to prove this point, we agree that the addition of exercise testing may indeed increase the sensitivity of the Duplex waveform for detecting aortoiliac stenotic disease.

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Regarding "Prevention of renal failure in patients undergoing thoracoabdominal aortic aneurysm repair"

In December 2004, we published the article "Prevention of renal failure in patients undergoing thoracoabdominal aortic aneurysm repair" in the *Journal of Vascular Surgery* (2004;40:1067-73). The purpose of the study was to address the importance of selective kidney perfusion with assessment of intrarenal pressure measurement during thoracoabdominal aortic aneurysm (TAAA) repair.

The published data are a compilation of data derived from two different centers where the senior author worked. In this retrospective analysis, we attempted to bring together sets of data highlighting our experience with TAAA repair obtained in the two centers. We have recently reassessed the different data sets and we encountered several flaws.

First, patients operated on for TAAA without selective perfusion, or with selective perfusion but without pressure measurements, were not included. This means that enrollment was selective, indicating that the series was not consecutive and that a systematic bias influenced the results. Subsequently, the reported outcome of the selected group does not reflect the outcome of TAAA patients in general. This might be misleading for the readers.

Second, during reanalyzing the different data sets, some incorrect assessments were discovered.

Finally, it appeared that different definitions were used in the different data sets; for example, with regard to mortality, we reported on 30-day mortality whereas it should have been in-hospital mortality.

The main conclusion of the article is that selective renal perfusion with pressure measurements is an effective measure to protect renal function during TAAA repair. As a result of the flaws in the article, we cannot sustain the validity of our conclusions. Furthermore, the above-mentioned issues indicate that this modality should have been assessed and described within the scope of the overall cohort group of patients.